

75270

Page 1

N900040100

Setup Start ***NS1***

Stop ***NS2***

Cust Item ID:

2

2

Customer:

Run Start *NR1*

Date:

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

100		0.00		
100	HAND FINISHING THERMOFORMING			
Thermoform	Memo	0.00	x2	OK
Thermoforming Machine	Set up Clamping Frame and Load Programas per Folio FTA 014			11/10/26
110		0.00		
110	HAND FINISHING THERMOFORMING			
Thermoform	Memo	0.00	x2	OK
Thermoforming Machine	Cut Blanks to 30" by 48"			11/10/26
120		0.00		
120	THERMOFORMING MACHINE			
Thermoform	Memo	0.00	x5	OK
Thermoforming Machine	Thermoform as per Dwg. D3269 and Folio FTA 014 Dwg. Rev. <u>E</u> Folio Rev. <u>C</u>			11/10/26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 75270

75270

Page 2

October-19-11 4:00:24 PM

Item ID: D3269-2 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bubble Window, RH
 Start Date: 19/10/2011 Start Qty: 2.00 ***2*** Cust Item ID:
 Required Date: 07/11/2011 Req'd Qty: 2.00 ***2*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo 1) Check Surface finish for undesired marks, voids, dimples etc. 2) Check depth of bubble to ensure conformity to drawing tolerances.	0.00 0.00				x2			Sh. 11/10/26
140 *140* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00		8 11/10/27		(x2)			
150 *150* Thermoform Thermoforming Machine	HAND FINISHING THERMOFORMING Memo 1) Trim off excess flange material 2) Buff out any light scratches or blemishes 3) Etch part number and batch number	0.00 0.00				x2			Sh. 11/10/27

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

Work Order ID 75270

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Page 3

October-19-11 4:00:24 PM

Item ID: D3269-2 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bubble Window, RH
 Start Date: 19/10/2011 Start Qty: 2.00 ***2*** Cust Item ID:
 Required Date: 07/11/2011 Req'd Qty: 2.00 ***2*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC5- Inspect part completeness to step on W/O	0.00							
160									
QC	Memo	0.00							
Quality Control	1) Visually inspect for clarity, and proper formation.								
170	Identify as per dwg & Stock Location: _____	0.00							
170	Packaging								
Packaging	Memo	0.00							
Packaging									
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.00							
Quality Control									

8/10/27

(2)

11/10/28

11/10/31

MF 11-10-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

October-19-11 4:00:28 PM

Page 1

Work Order ID: 75270

75270

Parent Item: D3269-2

D3269-2

Parent Item Name: Bubble Window, RH

Start Date: 19/10/2011

Required Date: 07/11/2011

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP A 05.03.22 New issue KJ/JLM
IPP B 05.05.09 Added engraving EC
IPP Rev:06-07-03 As per Rev C JLM
IPP C 07.11.06 Thermoform in-house DL verified by:EC
IPP Rev: D 08.07.24 As per New Tool DL.

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MACRYLICS.177		Purchased		No			sf	44.6239		24.12211			
MACRYLICS 177										**			
0.177" PLEXIGLAS G CLEAR CAST ACRYLIC SHEET													

Location

Loc Qty

Loc Code

therm

116796

44.623895

44.623895

24.12211

11/10/27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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DART AEROSPACE LTD		Work Order: 75270
Description: Bubble Window, RH (R44)		Part Number: D3269-2
Inspection Dwg: D3269	Rev: E	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Depth of bubble within tolerances	✓			
Shape Definition	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

Measured by: DL Date: 11/10/26

TRIMMING SECTION

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
10.0	+/-0.25	9.875"	✓			
6.2	0.036 Min	0.062"	✓			
3.8	0.057 Min	0.088"	✓			

Measured by: DL Date: 11/10/27

Audited by: S Date: 11/10/27

Prototype Approval: _____ Date: _____

Rev	Date	Change	Revised by	Approved
A	08.11.27	New Issue	KJ/DL	
B	09.10.16	Tolerances revised per Dwg Rev E	KJ	

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

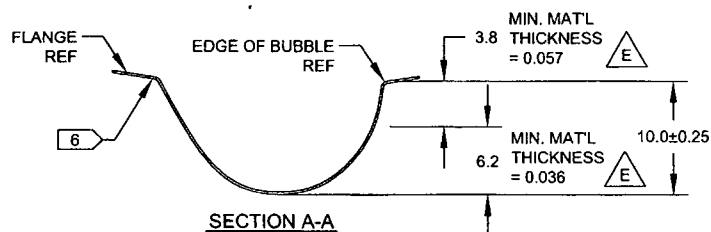
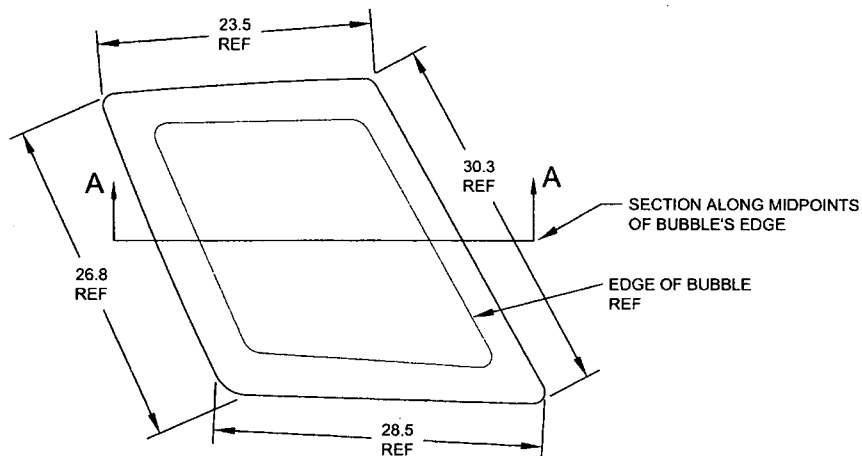
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NOTE: Date & initial all entries

8 7 6 5 4 3 2 1



D3269-1 BUBBLE WINDOW, LH

NOTES:

- 1) MATERIAL: PLEXIGLAS G CLEAR CAST ACRYLIC SHEET PER LP-391 TYPE 1 GRADE C OR POLYCAST II CLEAR ACRYLIC SHEET PER MIL-P-5425
0.177 TO 0.188 THICK (STOCK, REF DART SPEC M-ACRYLIC-S)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.010 TO 0.020 MAX
- 6) IDENTIFICATION: ENGRAVE P/N & B/N ON FLANGE WITHIN 0.25" OF BUBBLE. USE 0.125" LETTERS TO MAX DEPTH OF 0.005".
- 7) WEIGHT: 4.88 lbs
- 8) FORM PER D3269-1T1 AND QSI 022
FORMING PROCESS: (a) DRAPE OVER D3269-1T1 MOLD
(b) HEAT TO 290°F
(c) VACUUM FORM TO SPECIFIED HEIGHT
(d) LET COOL TO AT LEAST 100°F BEFORE HANDLING
(e) TRIM FLANGE TO PROFILE OF MOLD

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 75270 M.L.J

11/10/19

RELEASED
2009-09-23

E	0.057 WAS 0.095 (ZN C6-1, C7-2); 0.036 WAS 0.050 (ZN B6-1, B7-2) PER PAR 09-029	RF	09.08.21
D	REFORMAT, CHG OVERALL REF DIMS, CHG FORMING PROC (A8-1, A8-2), MIN WALL WAS 0.100 NOW 0.095 (C6-1, C7-2)	CP	08.02.13
C	NO LONGER TRIMMED	CP	06.06.22
B	UPDATE MATERIAL SPEC.	CP	05.03.10
A	NEW ISSUE	CP	05.02.18
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	RF	DRAWING NO.	REV. E
MFG. APPR.	RF	D3269	SHEET 1 OF 2
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	BUBBLE WINDOW	NTS
DATE	09.08.21	COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8 7 6 5 4 3 2 1

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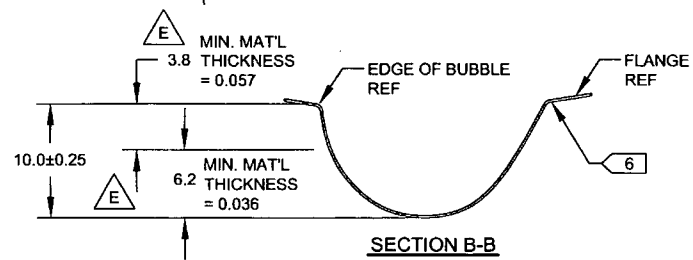
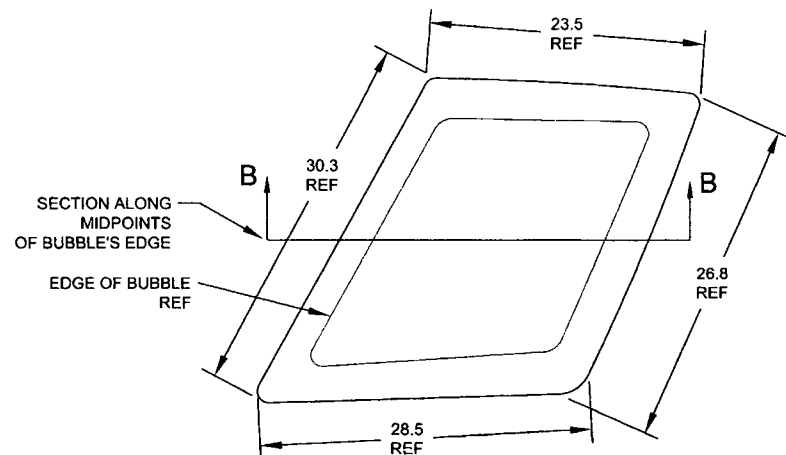
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75270

8 7 6 5 4 3 2 1



D3269-2 BUBBLE WINDOW, RH

NOTES

- 1) MATERIAL: PLEXIGLAS G CLEAR CAST ACRYLIC SHEET PER LP-391 TYPE 1 GRADE C
OR POLYCAST II CLEAR ACRYLIC SHEET PER MIL-P-5425
0.177 TO 0.188 THICK (STOCK, REF DART SPEC M-ACRYLIC-S)
- 2) FINISH: NONE
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- 7) WEIGHT: 4.88 lbs
- 8) FORM PER D3269-2T1 AND QSI 022
FORMING PROCESS: (a) DRAPE OVER D3269-2T1 MOLD
(b) HEAT TO 290°F
(c) VACUUM FORM TO SPECIFIED HEIGHT
(d) LET COOL TO AT LEAST 100°F BEFORE HANDLING
(e) TRIM FLANGE TO PROFILE OF MOLD

RELEASED
2009-09-23

DESIGN	9	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	UP	DRAWING NO.	REV. E
MFG. APPR.	AW	D3269	SHEET 2 OF 2
APPROVED	AW	TITLE	SCALE
DE APPR.		BUBBLE WINDOW	NTS
DATE	09.08.21	COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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